

## CLAIMS

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1. An audio signal processing method for performing the process for decoding the data supplied,

wherein it is detected whether zero data continues for a predetermined period of time in the supplied data,

wherein in the case where zero data continue for said predetermined period of time, it is determined that the compressed audio data are involved, and

wherein the process for decoding the supplied data is performed.

2. An audio signal processing method as described in claim 1, upon detection that zero data continue for said predetermined period of time, the decode process is performed by switching the supplied data to the decode process based on the sync signal of the supplied data.

3. An audio signal processing method as described in claim 1, wherein in the case where zero data continuing for said predetermined period of time is not detected, it is determined that the non-compressed audio data is involved, and the decode process is performed.

4. An audio signal processing method as described in

claim 3, wherein said supplied audio data are stored for said predetermined period during which it is detected whether the zero data continue or not, and in the case where it is determined that the non-compressed audio data is involved, the result of decoding the supplied audio data is output following the result of decoding the audio data stored.

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5. An audio signal processing method as described in claim 1, wherein the output of the data decoded is muted for said predetermined period of time during which it is detected whether zero data continue for said predetermined period of time.

6. An audio signal processing method as described in claim 1, wherein in the case where the data supplied during said decode operation are continuous zero data, the operation is performed again for detecting whether the zero data continue for said predetermined period of time.

7. An audio signal processing apparatus comprising  
detection means for detecting whether zero data continue for a predetermined period of time in the supplied data,  
determining means for determining that said supplied data is the compressed audio data in the case where the result of detection by said detection means has zero data continuing

for said predetermined period of time, and

decode means for decoding the supplied data based on the result of determination in said determining means.

8. An audio signal processing apparatus as described in claim 7, wherein in the case where said detection means detects that zero data continue for said predetermined period of time, said decode means switches to the decode process based on the sync signal of said supplied data and decodes said supplied data.

9. An audio signal processing apparatus as described in claim 8, wherein said determining means determines that the non-compressed audio data is involved in the case where zero data are not detected continuously for said predetermined period of time.

10. An audio signal processing apparatus as described in claim 9, wherein said decode means includes a memory for storing said supplied audio data for said predetermined period of time during which it is determined whether the zero data are continuously detected or not, and in the case where it is determined that said non-compressed audio data is involved, said apparatus outputs the output data decoded from said supplied data following the output data decoded by said decode means from

*cc* ~~said audio data stored in said memory~~

11. An audio signal processing apparatus as described in claim 7, further comprising muting means for muting the output of the decoded data output for said predetermined period of time during which it is detected whether zero data continue.

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12. An audio signal processing apparatus as described in claim 11, wherein the mute operation of said muting means is canceled with the start of the decode operation of said decode means.

13. An audio signal processing apparatus as described in claim 7, wherein in the case where the data supplied during the decode operation of said decode means are continuous zero data, the operation of detecting said supplied data by said detection means is performed again.

## DESCRIPTION OF REFERENCE NUMERALS

- 1 ... AC-3, RF CIRCUIT
- 2-1, 2-2, ... ... OPTICAL SIGNAL INPUT CIRCUIT (OPT1), (OPT2),  
...
- 3 ... RECORD OUTPUT CIRCUIT (REC OUT)
- 4 ... BPF WAVEFORM SHAPING CIRCUIT
- 5 ... RF DEMODULATOR
- 6 ... HIGH-SPEED SRAM
- 7 ... SWITCH (SW)
- 8 ... DIGITAL INTERFACE RECEIVER
- 9 ... DECODER
- 10 ... MULTI-CHANNEL DECODER
- 11 ... HIGH-SPEED SRAM
- 12 ... JITTER REMOVING CIRCUIT (12-1 TO 3)
- 13 ... D/A CONVERSION CIRCUIT (13-1 TO 3)
- 14 ... CRYSTAL OSCILLATION CIRCUIT (OSC)
- 15 ... CURRENT D/A CONVERSION CIRCUIT (15-1 TO 6)
- 16 ... 8-BIT DAC 6 CHANNEL SERIAL REFERENCE SIGNAL GENERATING  
CIRCUIT
- 17 ... CURRENT/VOLTAGE CONVERSION CIRCUIT AND LPF (17-1 TO 6)
- 18 ... AMPLIFIER (18-1 TO 6)
- 19 ... MUTING SWITCH (19-1 TO 6)
- 20 ... RELAY DRIVE CIRCUIT
- 21 ... OUTPUT SWITCHING CIRCUIT
- 22 ... MICRO CONTROLLER
- 23 ... AUDIO DATA
- 24 ... BURST PREAMBLE

- 25 ... COMPRESSED AUDIO DATA
- 26 ... ZERO DATA
- 27 ... BURST PREAMBLE
- 28 ... COMPRESSED AUDIO DATA
- 30 ... STATE 1 (ZERO DATA DETECTION MODE)
- 31 ... DATA INPUT OTHER THAN ZERO
- 32 ... STATE 2 (UNKNOWN MODE)
- 33 ... SYNC DETECTION
- 34 ... STATE 3 (COMPRESSED AUDIO DATA BEING DECODED)
- 35 ... ZERO DATA DETECTION FOR ONE CONTINUOUS SECOND
- 36 ... ZERO DETECTION FOR THREE SAMPLES IN ROW
- 37 ... COUNTER CLEAR
- 38 ... COUNTER > 1024 (PCM DETECTION)
- 39 ... STATE 4 (PCM BEING DECODED)
- 40 ... SYNC DETECTION
- 41 ... ZERO DATA DETECTION FOR ONE CONTINUOUS SECOND